A CRITICAL EXAMINATION OF COMPREHENSIVE SEX EDUCATION PROGRAMMES TARGETING GIRLS BETWEEN THE AGES OF 14-18, IN KENYA, EAST AFRICA

by

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Teenage pregnancy in Kenya, East Africa, has emerged as a significant public health concern because of its contribution to increased fetal and maternal mortality, increased spread of sexually transmitted infections (STIs) and the declining socio-economic status of women in Kenya. At present 25% of Kenyan females ages 15-19 are either pregnant or have children and 85% of females 15-19 do not use contraceptives. If the country fulfills its unmet need for family planning thus reducing incidences of teenage pregnancy, it can help Kenya significantly reduce the cost of achieving five of the eight Millennium Development Goals (MDG) goals set by the United Nations.

To meet their unmet family planning needs, youth nearing or entering their sexual debut need instruction on family planning/sex education. Comprehensive sex education, which includes education on abstinence and birth control methods, has proved effective in delaying sexual debut, reducing frequency of sex, reducing the number of sexual partners and increasing condom or contraceptive use. Comprehensive sex education does not encourage teenage sexual activity nor does it lead to early initiation of sexual activity. Instead participating in a comprehensive sex education programme improved adolescent decision- making skills and boosted self-confidence.

An on-line search for functioning comprehensive sex education programmes targeting girls between the ages of 14-18 in Kenya, East Africa, was conducted from January to March 2009. Five programmes were identified: 1) Primary School Action for better Health, 2) Teen Web, 3) The World Starts With Me, 4) Tuko Pamoja [We are One] and 5) Youth for Youth. These programmes met the inclusion criteria used for this paper, all programmes are conducted in Kenya, were initiated after 1990 and are still running, target either adolescent girls or the general adolescent population ages 14 to 18 and must teach comprehensive sex education. Programmes that taught only abstinence were excluded.

This paper discusses these comprehensive sex education programmes, examines curriculum design and content and critiques how effectively they met seventeen criteria of a well designed comprehensive sex education (CSEP) curriculum as outlined by Douglas Kirby, a senior research scientist and one of the world's leading experts on the effectiveness of school and community programmes in the reduction of adolescent sexual risk-taking behaviours. This paper also discusses barriers to implementing nation-wide CSEPs in Kenya and strategies to improve and institutionalize available CSEPs.

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PREFACE

This thesis was inspired by an experience I had as a volunteer, at the age of 14 in the maternity ward of a local Kenyan hospital. I witnessed a 17 year old girl undergoing a 'therapeutic' termination of pregnancy. As she went through the unmediated process of childbirth, she mentioned that the boy responsible told her if they 'did it only once' she would not get pregnant. At the age of 14 I knew this was not the case. The girl lacked knowledge on basic biological functions and knowledge of birth control.

Comprehensive sex education and reproductive health services must be available for all young people. This is currently not the case in Kenya and other Sub-Saharan African countries and has led to escalating rates of sexually transmitted diseases, HIV/AIDS and unwanted teenage pregnancies. This state of affairs further undermines countries' efforts to improve their human resource. It is my sincerest hope that the content of this thesis will be instrumental in changing Kenya's policies regarding adolescent sexual and reproductive rights.

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I dedicate this thesis to my family. Mum and Dad, I thank you for your decision that allowed me to be exposed to a different part of the world and in doing so discovering my passion. I thank my brother Sitsofe for all the times he acted as my human thesaurus and for his assistance in editing this document. Thanks for reading it over and over to find all the typos my tired eyes could no longer see. I would also like to thank my loving fiancé Edwin, who encouraged me throughout this process. Things got harder when you had to move away but thank you for being as close as possible without actually being physically present. Thank you all for your constant support, thank you for supporting my ambition and encouraging me to see this through to the end.

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1.0 INTRODUCTION

This thesis discusses existing comprehensive sex education programmes targeting girls between the ages of 14-18 in Kenya, East Africa, and the contribution these programmes have in reducing teenage pregnancy and the spread of STIs, including HIV/AIDS. Millennium Development Goals (MDGs) are eight goals that United Nations member countries have pledged to achieve by 2015. The MDGs are geared towards responding to the world's main development challenges. MDG Five's goal is to reduce maternal mortality in member countries by 75% by the year 2015. Comprehensive sex education is an important factor in the overall goal of improving maternal health, which Kenya is working to achieve. This target is to be achieved by providing universal skilled care coverage at birth, and increase access to universal reproductive health. MDG Five defines universal reproductive health as increased contraceptive rates, decreased adolescent birth rates, increased antenatal care coverage (with at least either one to four visits) and fulfilling the unmet need for family planning.

Kenya has been chosen as a case study for this thesis because of the author's experience working with the population, and because it has the fastest growing economy in East Africa, and its decisions have the capacity to strongly affect its neighbours (Economic Overview: Kenya, Embassy of the Republic of Kenya in Japan, 2009). Kenya has experienced considerable economic growth in the past few years propelled by several key factors which include "a

reasonably well-educated labour force, a vital port that serves as an entry point for goods destined for countries in the East African and Central Africa interior, and above all, a government that is committed to implementing business reforms" (Economic Overview: Kenya, Embassy of the Republic of Kenya in Japan, 2009).

Kenya's labour force is one the most important constituents of its development. The health and strength of its workforce is affected by incidences of teenage pregnancy, women's health and by association, comprehensive sex education (Ellis et al., 2007). These factors are all intertwined. In order for the country to develop its human resource, and maintain and augment its economic standing, the Kenyan government must improve healthcare provided to its citizens. According to Population Action International, a reproductive health research and advocacy agency, the most fundamental level of human resource development is the provision of comprehensive sex education to all (Why Good Sexual and Reproductive Health is Critical to the Well-Being of Youth: Population Action International, 2004).

There are two categories of sex education programmes: abstinence-only-until-marriage education and comprehensive sex education (see Appendix A for a comparison of the two type of programmes). Abstinence-only-until-marriage education teaches abstinence as the only morally correct option of sexual expression for unmarried young people. These programmes are not permitted to provide information about contraception or condoms for the prevention of STDs and unintended pregnancy.

A 2007 meta-study conducted by Mathematica Policy Research Inc. on behalf of the U.S. Department of Health and Human Services, found abstinence-only-until-marriage/abstinence-only programmes ineffective (Trenholm et al., 2007). Abstinence-only-until-marriage education failed to delay age of sexual debut, number of sexual partners and condom use. Rates of teenage

pregnancy and rates of STIs were also unaffected by abstinence–only education. (Trenholm et. al., 2007).

Comprehensive sex education teaches that abstinence is the best method for avoiding sexually transmitted infections (STIs) and unintended pregnancy. However it also teaches the use of condoms and contraception to reduce the risk of unintended pregnancy and of infection with STIs, including HIV/AIDS. In addition, comprehensive sex education programmes (CSEPs) provide education on interpersonal and communication skills and help young people explore their own values, goals, and options (Sex Education Programs: Definition and Point by point Comparison, Advocates for Youth, 2008).

A research team lead by Dr. Douglas Kirby, commissioned by the U.S. National Campaign to Prevent Teenage and Unwanted Pregnancy examined 52 comprehensive sex education programmes (CSEPs) and found 38 effective in delaying sexual debut, reducing the frequency of sex, reducing the number of sexual partners and increasing condom or contraceptive use. Though this report examined U.S.-based programmes, it notes that CSEPs are typically well-suited for widespread replication and dissemination while maintaining the same positive effects (Review of Key Findings of "Emerging Answers 2007" Report on Sex Education Programs, Guttmacher Institute, 2007). CSEPs did not encourage teenage sexual activity nor did they lead to early initiation of sexual activity. Instead, participating in a comprehensive sex education programme improved adolescent decision-making skills and boosted self-confidence.

Since comprehensive sex education has been found to be a cost- effective non-invasive intervention against teenage pregnancy and STIs, it is the focus of this thesis because knowledge to control reproductive choices can expand women's educational options, improve their socioeconomic status, and improve maternal health as pregnancies are planned and child bearing is spaced out.

Adolescent females between the ages of 14 and 18 have been targeted for this discussion because information retrieved from the United Nations Population Fund (UNFPA) estimates age of sexual debut for Kenyan females to be 15. Between the ages of 14 and 18 females have entered or are entering puberty, are increasingly subjected to male sexual attention and are approaching time of sexual debut. Without comprehensive sex education, adolescent females are at higher risk of unintended pregnancies, STIs, HIV/AIDS, high school discontinuation, sexual exploitation by older men, limited education and career options and poor physical health (Kenya: More Education Equal Less Teen Pregnancy and HIV, IRIN News, 2008). This population is also the target of this study because a large percent of 14-18 year old girls are in school, in a central location where access to reproductive health education can be better facilitated. They are also at the same developmental stage, a stage characterized by identity vs. role confusion (Potts & Mandleco, 2002).

This thesis highlights Kenya's need for comprehensive sex education programmes (CSEPs) and their role in improving the socio-economic status of women in particular. Data are provided on the rates of teenage pregnancy and STIs including HIV/AIDS and implications for the adolescent female population. CSEPS are critically examined and assessed for effectiveness using the 17-point criteria for a well-designed sex education programme developed by Dr. Douglas Kirby, a senior research scientist for Education Training and Research (ETR) Associates and one of the world's leading experts on the effectiveness of school and community programs in the reduction of adolescent sexual risk-taking behaviours. Lastly, there is a discussion on possible improvements to existing programmes.

2.0 BACKGROUND

Kenya is an East African country bordered by the Indian Ocean, Ethiopia, Somalia, Sudan, Tanzania and Uganda. Kenya has a population of slightly over 37 million. A little over 42% of the population is under the age of 14, 55.2% of the population is between the age of 15-64, and the remaining 2.6% of the population are over the age of 65 (CIA-The World Fact Book, Kenya, 2008). Almost half of Kenya's population is composed of very young people who are Kenya's future tax-paying human resource. Because such a large percentage of the population is under the age of fourteen and will soon be approaching age of sexual debut, it is important that their reproductive potential be managed to ensure that in the future, the country can meet basic needs of its population.

According to 2007 data from the United Nations Population Fund (UNFPA), Kenyan women have a lower life expectancy than Kenyan men because of factors that include higher prevalence of HIV/AIDS in women and maternal mortality (Millennium Development Goals in Kenya: Needs and Costs, UNFPA, 2005) . There is a total fertility rate of 4.97, and 94 births per 1,000 women between the ages of 15-19. The Kenyan Center for the Study of Adolescence revealed in 2003 that 25% of Kenyan females 15-19 are either pregnant or have children and 85% of females 15-19 do not use contraceptives. Furthermore, up to 13,000 Kenyan girls drop

out of school every year as a result of pregnancy, and around 17 % of girls have had sex before they turn 15. (Kenya: Statistics, Population Reference Bureau, 2008). Only 39% of Kenyan women in their reproductive years use contraceptive methods, with 32% using modern methods (Country Health System Fact Sheet 2006 Kenya, 2006). Modern methods of birth control include hormonal medications and intrauterine contraception devices (IUCDs).

Data retrieved from the World Health Organization (WHO) indicate the prevalence of HIV/AIDS among Kenyan women ages 15 to 24 years to be between 12.4% to 18.7% compared to 4.8% to 7.2% of Kenyan men in the same age group. The data also reveal that only 34% of females between the ages of 15-24 have knowledge of HIV prevention methods as compared to 47% of males in the same age group (HIV prevalence in different populations, 2006).

A report compiled by International Planned Parenthood Federation (IPPF) reveals that the median age of first marriage for Kenyan women was 20 years old but average age of sexual debut was fifteen (Report Card HIV Prevention for Girls and Young Women: Kenya, 2008). Unmarried young sexually active females often deny having sex because it is culturally unacceptable (Zaba, Pisani, Slaymaker & Boerma, 2004). The most recent Kenyan Demographic and Health Survey (KDHS) reported that 41% of single males and 21% of single females aged 15 to 24 reported sexual activity in the preceding twelve months. Condom use at last intercourse within this group was less than 50% (Central Bureau of Statistics [CBS] Kenya, Ministry of Health & ORC Marco, 2004).

Figures on maternal mortality vary by source, but a United Nations report estimates that in 2003, there were 414 maternal mortalities per 100,000, with approximately 14,700 women of reproductive age dying from pregnancy-related complications. Another 294,000 to 441,000

women annually suffer from disabilities caused by complications during pregnancy and childbirth (Millennium Development Goals in Kenya: Needs and Costs, UNFPA, 2005).

2.1 IMPLICATIONS OF UNWANTED AND UNPLANNED TEENAGE PREGNANCIES IN KENYA

An unplanned or unwanted teenage pregnancy can lead to a cascade of negative events. Physically, teenage pregnancy is associated with higher neonatal morbidity and mortality, low birth weight babies, premature onset of labour, premature delivery and a higher risk of obstetric complications such as pre-eclampsia, pregnancy-induced hypertension (PIH) and obstetric fistula (Kumar et al., 2007; Wasunna & Mohammed, 2002). In developing countries, obstetric fistulas usually result from obstructed labour of young women with a pelvis too small to deliver without surgical assistance. This can cause urinary and/or fecal incontinence and treatment is usually by surgical repair (Miller, Lester, Webster & Cowan, 2005; Millennium Development Goals in Kenya: Needs and Costs, 2005). In addition to pregnancy, not using barrier contraceptive methods puts adolescent females at risk of acquiring a sexually transmitted disease or HIV/AIDS. The adolescent mother has also been noted to be less likely to seek prenatal care and may face a higher risk of death at delivery (Magadi, 2006).

The socio-economic and socio-cultural consequences of an unplanned single adolescent girl pregnancy in Kenya are severe. Kenya has very restrictive abortion laws. Abortions are illegal unless the life of the mother is in danger (Bhatia, 2008). Pregnant school-going adolescent girls are forced to drop out of school since high schools do not accommodate pregnant students

and would expel them (Kabiru, 2008). A recent change in policy allows teenage mothers to return to school after birth of the baby, but there have been reports of schools not willing to readmit them and girls being shamed into staying out of school (More Education Equals Less Teenage Pregnancy and Less HIV, IRIN News, 2008). This begins a cycle of poverty. These girls may be unable to return to school due to lack of assistance in caring for the baby, lack of school fees or the social stigma of returning to school after childbirth. This may in turn diminish chances of the teen mother ever finding gainful employment or having a chance to marry later in life and being financial independent from her parents (Were, 2007).

Though Kenya has many pressing economic, political and social needs, studies have shown that if the country realizes its unmet need for family planning, "it can help Kenya significantly reduce the cost of achieving five of the MDG goals, including achieving universal primary education, reducing child mortality, improving maternal health, ensuring environmental sustainability and combating HIV/AIDS, malaria and other diseases" (Achieving the MDGs: The Contribution of Family Planning Kenya, 2007, p.1). A report by United States Agency for International Development (USAID) also mentions that improving family planning could potentially save the country over $200 million in costs if adequate family planning measures were implemented (Achieving the MDGs: The Contribution of Family Planning Kenya, 2007).

2.2 FACTORS CONTRIBUTING TO DECREASED SEX EDUCATION AND INCREASING RATES OF TEENAGE PREGNANCIES IN KENYA

Several studies have categorized risk factors that increase chances of teenage pregnancy. A metanalytical study by Chang et al. (1998) highlighted teenage pregnancy determinants in the US and categorizes them into environmental risk factors, individual risk factors, and social change factors. Examples of environmental factors include the neighborhood a girl lives in, level of poverty, with higher poverty levels correlating positively with higher risk for pregnancy, low social support and low levels of education. It was also found that being raised by a poor, less educated single parent or in an environment where mother or sister gave birth as a teen further increases the chance of a teenage girl becoming pregnant. Decreased age at sexual debut and early menarche coupled with older age at marriage are social factors mentioned in the increase in teenage pregnancies and STI rates (Chang et al., 1998).

Chang et al. (1998) define individual risk factors as behaviours adopted by youth that are projected onto the environment and predispose the young person to early pregnancy. They also noted that:

> Poor performance in school, aggressive behavior, engaging in other risky behavior (including using drugs and alcohol), dating at a young age, dating older partners, and not being well-liked by peers as factors. Teens who experience puberty at an early age and adolescents who have experienced sexual abuse or pressure were also reported to be at greater risk of early childbearing (p. 9).

Dr. Maureen Were, a policy analyst for the Kenya Institute for Public Policy Research and Analysis (KIPPRA) classifies determinants of teenage pregnancy as either socio-economic or socio-cultural. She identifies determinants of teenage pregnancy in Kenya to be similar to those identified in the U.S. by Chang et al. (Were, 2007). The only major differences are that in Kenya, age of first marriage is lower (age 20) and there is greater social accountability; however, the community does not provide family planning education (Nganda, 2008).

Kabiru and Orpinas (2008) and Were (2007) tackle the issue of teenage pregnancy from socio-economic and socio-cultural vantage points. Kabiru and Orpinas' research reveals that in parts of Africa, Kenya included, males are "expected to exert control over sexuality and reproduction, while females are expected to take a more subservient role" (Kabiru & Orpinas, 2008, p.2). Kenyan society places a high value on virginity at marriage, especially for females, but due to increasing globalization, urbanization, low religiosity, having sexually active peers, substance abuse, and other societal changes, sexual values of young people have changed. The age of sexual debut is lower, with a greater emphasis placed on sexual gratification instead of safer sex practices. In-school adolescents engaged in less risky sexual behaviour than out-of school counterparts, though they were still at risk for negative sexual and reproductive outcomes. Overall, any school attendance delayed sexual activity (Kabiru & Orpinas, 2008).

Were's (2007) research in Busia district of Kenya revealed that non-school going females and those with only a primary (elementary) education were "vulnerable." In Were's study population, older adolescents were less prone to unplanned pregnancies regardless of education level. Other socio-economic and socio-cultural factors identified to affect teenage pregnancy include "lack of access to educational opportunities- both formal education and comprehensive sex education, inappropriate forms of recreation, which act as rendezvous for pre-marital sex,

poverty, cultural taboos and a lack of parental guidance and counseling" (Were, 2007, p.2). Contraceptives in this population were found to be effective in preventing unplanned teenage pregnancies but availability and education on use were poor. Were recommends adolescents be given information necessary to make educated choices in sexual relationships, and an emphasis should be placed on alleviating poverty and improving education of females.

Dr. Njeri Mbugua, a Kenyan professor teaching sociology at Illinois Wesleyan University, introduces a new perspective on the cause of increased unplanned teenage pregnancies in Kenya. She postulates that educated mothers in urban Kenya are kept from providing useful sex education to their daughters because of socio-cultural and religious inhibitions (Mbugua, 2007). Socio-cultural factors and religion have generated a conservative society in which parents do not teach sex education to their children (Nganda, 2008) and Mbugua delves further into the historical background of this issue.

According to historical accounts of Kenyan society before colonization and the introduction of Christianity, children were socialized about their adult responsibilities as they grew older. Sex education was not given by parents because it was considered taboo to have such discussion between immediate family members. Grandparents were instrumental in introducing the young people to topics such as husband-wife expectations and sexual behaviour. Young people took part in initiation rites after which they were considered adults and were free to marry. This eliminated the possibility of unwed pregnant girls. During initiation rites, initiates were tutored on sex education; sexually explicit language was used and explicit dances taught. The dances mimicked sexual activity to reinforce what was taught. Articles by several authors mention that in some Kenyan tribes, non-penetrative sex was allowed to stimulate sexual organs

before marriage (Mbugua, 2007, Kiragu & Zabin, 1995). These actions were guided by a strict moral code and young people were held accountable to the community.

With the advent of Christianity, many traditional coming of age rituals were eliminated. Missionaries who came to Kenya in the 1800s were extremely conservative in dress, language and dance. Their behaviour was totally opposite of the indigenous behaviour they encountered. African cultural practices were denounced and began to be eroded. Christian/European practices were increasingly incorporated, adolescent girls ceased to be involved in initiation rites and their parents and extended relatives, teachers and other adult role models became uncomfortable teaching them about responsible sexual behaviour (Ojwang & Maggwa, 1991; Mbugua, 2007; Nganda, 2008). Today's Kenyan society increasingly subscribes to Christian religious beliefs. At last survey in 2003, 88.5% of Kenyans were Christian and 26% of that percentage Catholic (Religious Demographic Profile: Kenya, The Pew Forum on Religion & Public Life, 2009). In addition, churches in Kenya propagate a culture of silence regarding sex, and the Catholic Church does not condone the use of condoms for safer sex (Mbugua, 2007).

A socio-economic factor that was not discussed by the previous authors is coercion of adolescent girls into sexual activity. Research has shown that some adolescent girls are forced to have sex or have sex for financial reasons (Erulkar, 2004). Most perpetrators of forced sexual activity were intimate partners, including boyfriends, girlfriends and husbands. Adolescent boys were reported to be coerced into sexual activity by their girlfriends but less often than girls. Articles by Erulkar (2004) and Abma, Driscoll andMoore (1998) recognize that adolescents engage in premarital sex with inadequate knowledge of reproduction and family planning and few using safer sex practices.

2.3 INTERVENTIONS FOR FAMILY PLANNING EDUCATION AND TEENAGE PREGNANCY IN KENYA

Articles reviewed in the previous section identified socio-cultural and socio-economic factors that influence family planning education and contribute to increasing teenage pregnancy rates in Kenya. Girls from a lower socioeconomic background, with lower education levels, inadequate social support, lower religiosity and indulging in substance abuse were more likely to have unplanned teenage pregnancies (Kabiru & Orpinas, 2008). Girls may be coerced into sexual activity for financial reasons (Erulkar, 2004). Adolescent girls were reported to have inadequate family planning education and poor access to contraceptives and barrier methods (Were, 2007).

Most articles in the previous section recommended introduction of reproductive health education/family planning education in a formalized program or delivered by adolescents parents, teachers or other adult role models and increased access to contraceptives (Odongo & Ojwang, 1990; Ojwang & Maggwa, 1991; Kiragu, 1993; Abma, Driscoll,& Moore, 1998; Taffa, Omollo & Matthews, 2003; Erulkar et al.,2004; Zaba, 2004; Mitchell, Halpern, Kamathi & Owino, 2006; Mbugua, 2007; Were, 2007; Kabiru, 2008; Nganda, 2008). Odongo and Ojwang (1990) suggest that adolescent sexuality education should start at the primary level (equivalent of US elementary school level).

Research for this thesis revealed some older and now defunct reproductive health education/family planning initiatives. Initiatives found were mostly implemented in small communities with a small sample size or as a pilot study (Halpert, Mitchell, Farhat & Bardsley, 2008).

Erulkar et al. (2004) facilitated an intervention with positive results. The Nyeri Youth Health Project, a community-based project targeting young people between the ages of 10 and 24, started with a yearlong planning phase in which attitudes of staff and healthcare providers towards providing family planning education to youth were examined. Next, youth, parents and community leaders were questioned on content they would like to have in a family planning education programme. Youth counselors recruited from the community were trained in a curriculum that taught individual, community and family values, adolescent development, sexuality, gender roles, relationships, pregnancy, STI,HIV/AIDS, harmful traditional practices, substance abuse, planning for the future and children's rights and advocacy (Erulkar et al., 2004). Teaching of the curriculum was tailored to age and done through lectures, group discussions, role play and skits. The project was ultimately found to be successful in increasing knowledge, attitudes and behaviour in regards to adolescent/youth sexuality. From this, reproductive health information and a service environment receptive to needs of young people were created, sexually active youth were prevented from experiencing negative consequences and sexual debut was delayed (Erulkar et al., 2004).

As mentioned earlier, targeting family planning education can significantly lower the cost of realizing five additional MDG goals (Achieving the MDGs: The Contribution of Family Planning Kenya, 2007). Due to the conservative nature of Kenyan society (Nganda, 2008), the most viable means of meeting Kenya's need for family planning education will be to increase the

number of comprehensive sex education programmes available to young people who should start to be taught as early as possible in order to normalize discussions on sexual issues.

3.0 METHODOLOGY

Comprehensive sex education programmes were selected using the inclusion and exclusion criteria identified below. The criteria were as follows:

1. All programmes identified must have been conducted in Kenya.
2. All identified programmes must have been initiated after 1990.
3. All articles or reports must describe sex education for adolescents between the ages of 14 and 18 in Kenya (to target adolescent 14 to 18 years old who are not in school either because they never went to high school or dropped out of high school).
4. All articles or reports addressed sex education for a high school population in Kenya.
5. All articles or reports mention primarily teaching contraceptive use to adolescents in Kenya.
6. All identified comprehensive sex education programmes must still be functioning, because this thesis examines the current state of CSEPs in Kenya today.
7. Exclude articles or reports that do not mention what component of sex education is taught.
8. Exclude Kenyan programmes that do not teach components of comprehensive sex education.

3.1 SEARCH PROCESS

Comprehensive sex education programmes were identified through a three phase search process using the inclusion criteria outlined above. First, a search of six online databases (PubMed, CINAHL, Ovid, MEDLINE, Popline and the African Index Medicus) was conducted thrice from January to March 2009. Various combinations of the following terms, subject headings and search parameters were used in the search: “sex education,” “Kenya,” “family planning,” “HIV teaching,” “adolescents,” “program evaluation,” “Eastern Africa,” “family planning education,” “reproductive health teaching,” “high school,” “secondary school,” and “contraceptive teaching”.

The search was limited to programme information published in peer-reviewed journals or reported in any document retrieved via the internet from 1990 to present. Two hundred and thirty three articles were identified from Pubmed after using the search terms “Kenya” + “family planning”. Title and abstracts of articles were reviewed for relevance. None was relevant for this paper because articles from this search either focused on Kenya or some aspect of family planning or family structure but did not mention comprehensive sex education for adolescents. The search term “programme evaluation” was added to the above string and entered into Pubmed. Eighteen articles were identified. They were reviewed for relevance by title and abstract and one programme was identified (Primary School Action for Better Health). The

remaining 17 articles ranged from discussion of HIV knowledge among Kenyan secondary school students to factors associated with increased sexual activity in Kenyan adolescents.

Expanding the search using the terms “Eastern Africa” + “family planning” + “programme evaluation” in MEDLINE resulted in 67 results. They were again reviewed for relevance by title and abstract, and one programme was identified (Teen Web). Searches of CINAHL, Ovid and the African Index Medicus using a combination of search terms did not result in any relevant results. A search of Popline, the world's largest database on reproductive health and maintained by the INFO project at the Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs, resulted in 29 articles. The search terms “sex” + “Kenya” + “curriculum” were used. One comprehensive sex education programme (Tuko Pamoja) was identified through this process.

The second phase of this search involved using the search engine Google. The strings “comprehensive sex education programmes in Kenya,” “reproductive health education programmes in Kenya” and “sex education in Kenya” were entered. A newspaper article (Wamari, 2007) in the *Daily Nation*, Kenya’s leading newspaper, talked of the initiation of Dutch funded sex education in Kenyan high schools. The sex education programme was to be called ‘The World Starts With Me’. More information on this programme was obtained using another Google search, which led this author to the programme’s website.

An online search of published Government of Kenya documents and reports from the World Health Organization (WHO), its partner organizations and organizations working in global reproductive health issues was conducted. Reproductive health organizations included Family Health International (FHI), International Planned Parenthood Federation (IPPF), Advocates for Youth, the Guttmacher Institute and Jhpiego, an international non-profit health

organization affiliated with Johns Hopkins University. From this search process, one other programme (Youth for Youth) was identified.

The last phase of the search was done to substantiate information on the identified programmes. References in the retrieved articles were searched for additional sources. The search engine Google was used to obtain additional information on all programmes. Three of the identified programmes (PSABH, Tuko Pamoja and WSWM) had websites that provided supplemental information on the programmes. The two other programmes (Y4Y and Teen Web) had additional information available from the websites of University of California in Los Angeles and the University of North Carolina at Chapel Hill respectively. The author also questioned a Kenyan high school teacher on available comprehensive sex education programmes. The teacher did not know of any such programmes run in Kenyan high schools. In the end, a total of five programmes that met the pre-determined selection criteria were identified.

4.0 REVIEW OF THE PROGRAMMES

This part of this paper critically examines sex five education programmes targeting girls between the ages of 14 and 18 in Kenya, East Africa. The intent of this portion of the paper is to highlight existing programmes in Kenya and address their strengths and weakness so programmes that have led to positive change can be replicated in other African countries with similar socio-cultural backgrounds.

This section describes the extent to which identified programmes met Kirby's 17 criteria for a well-designed comprehensive sex education programmes. The five programmes to be reviewed are: 1.) ***Primary School Action for Better Health (PSABH),*** 2.) ***Teen Web,*** 3.) ***The World Starts With Me (WSWM),*** 4.) ***Tuko Pamoja*** *and* 5.)***Youth for Youth (Y4Y).*** There will also be discussion on (1) population the programme was developed for, (2) curriculum design, (3) curriculum content, (4) goals of the curriculum and extent to which goals were achieved, and (5) strengths and limitation of the programme. Kirby's 17 criteria are outlined below:

I. Curriculum Development Process

1. Involved multiple people with expertise in theory, research, and sex and STI/ HIV education to develop the curriculum.
2. Assessed relevant needs and assets of the target group.
3. Used a logic model approach that specified the health goals, the types of behavior. affecting those goals, the risk and protective factors affecting those types of behavior, and activities to change those risk and protective factors.
4. Designed activities consistent with community values and available resources (e.g., staff time, staff skills, facility space and supplies).
5. Pilot-tested program.

II. Curriculum Content: Goals and Objectives

6. Focused on clear health goals—the prevention of STD/HIV, pregnancy, or both.
7. Focused narrowly on specific types of behavior leading to these health goals (e.g., abstaining from sex or using condoms or other contraceptives), gave clear messages about these types of behavior, and addressed situations that might lead to them and how to avoid them.
8. Addressed sexual psychosocial risk and protective factors that affect sexual behavior (e.g., knowledge, perceived risks, values, attitudes, perceived norms, and self-efficacy) and changed them.

III. Activities and Teaching Methodologies

9. Created a safe social environment for young people to participate.
10. Included multiple activities to change each of the targeted risk and protective factors.

11. Employed instructionally sound teaching methods that actively involved participants, that helped them personalize the information, and that were designed to change the targeted risk and protective factors.
12. Employed activities, instructional methods, and behavioral messages that were appropriate to the teens' culture, developmental age, and sexual experience.
13. Covered topics in a logical sequence.

IV. Curriculum Implementation Process

14. Secured at least minimal support from appropriate authorities, such as departments of health, school districts, or community organizations.
15. Selected educators with desired characteristics (whenever possible), trained them, and provided monitoring, supervision, and support.
16. If needed, implemented activities to recruit and retain teens and overcome barriers to their involvement (e.g., publicized the program, offered food or obtained consent)
17. Implemented virtually all activities with reasonable fidelity. (Kirby, 2007).

4.1 PRIMARY SCHOOL ACTION FOR BETTER HEALTH (PSABH)

The Primary School Action for Better Health (PSABH) programme was developed in Nyanza Province of Kenya in 1999 by Centre for British Teachers (CfBT) Education Trust, a British education consultancy and service organization, the Kenyan Ministry of Education, Science and Technology (MoEST), the Ministry of Health (MOH) and the Kenya Institute of Education (KIE). Initial funding for the programme was a $500,000 grant from USAID. The curriculum was developed for in-school youth between the ages of 11 and16.

The primary objectives of PSABH are to deliver HIV/AIDS education as part of regular class room teaching, to increase communication between students, parents and teachers in regards to HIV/AIDS education, to encourage students to either delay sexual activity, abstain or use condoms effectively and to enhance student responsibility for any sexual activity.

PSABH was developed using a collaborative research approach in which community members participated in baseline research and using principles of Bandura's Social Learning Theory. First, a review of existing school-based HIV intervention programmes in Sub-Saharan Africa (SSA) was done. This examination revealed that available programmes had difficulty gaining community and teacher buy-in, that teachers were resistant to providing instruction on the subject matter or contributed to existing prejudices and that programmes suffered a dearth of resources. To combat these issues, information included in PSABH was introduced to the

community, parental consent was obtained prior to HIV/AIDS intervention teaching, school teachers were specifically trained in its delivery, peer educators were recruited to provide training to other youth, and MoEST mandated teaching of at least one lesson a week and later incorporated questions on HIV/AIDS in the National Examinations. The constructs of role modeling, practicing desired behaviour and use of activities to build self-efficacy from Bandura's Social Learning theory were used to ensure programme acceptance, maintenance and sustainability.

The actual PSABH curriculum runs throughout the semester with one dedicated lesson per week. Because the aim of this programme is to integrate HIV/AIDS education into daily school instruction, content is infused into the rest of the curriculum and extracurricular activities. It should be noted that with the exception of the one hour weekly class, the amount of time dedicated to additional HIV/AIDS education is not specified. Topics discussed in PSABH include "learning life skills, goal setting, HIV/AIDS management, love and sex and making good decisions" (Valerio, Bundy & Beasley, 2008, p.120).

After 18 months, an evaluation of the programme revealed that sexual activity in boys and girls was delayed, fewer boys and girls reported having sex, more girls reported being forced to have sex, and more girls now refused to have sex. It was also discovered that more boys avoided situations and locations that encouraged sexual activity, more girls reported having used condoms during their last sexual encounter, girls felt more confident in refusing sexual offers, more girls and boys felt they could have a boyfriend or girlfriend without having sex and some even preferred to wait until marriage before having sex (Valerio, Bundy & Beasley, 2008).

PSABH is a programme that takes into account the cultural climate of the country and realizes that adolescent girls have a heavier burden to bear in the fight against teenage pregnancy

and STIs. The Kenyan Ministries of Health and Education ensure programme sustainability and institutionalization by incorporating it into the school curriculum and including HIV/AIDS questions on the National Examination. Subject teachers, head teachers/principals, community representatives, peer educators (two boys and two girls) and local church leaders received training on how to administer the programme. Teachers spent slightly over 50 hours in training on 24 topics such as adolescent health and sexuality, STIs, HIV/AIDS education and counseling, community mobilization and activities for developing life skills.

One of the programme's weaknesses is its inability to meet the needs of sexually experienced girls (Maticka-Tyndale, Wildish & Gichuru, 2007). Focus groups with students participating in PSABH revealed that communication regarding sexual issues with teachers did not improve. Conversations about condom use with sexually active girls did not result in increased condom use at next intercourse. In fact, it exposed these girls to greater risk for physical violence because sexual partners now doubted their fidelity. Another weakness of the program was providing information on condom use without community endorsement of their use. Conflict continues to exist because of condom instruction in schools and mandates from the Catholic Church not to use condoms.

PSABH meets Kirby's 17 criteria. Multiple agencies were involved in producing the curriculum which used behavioural theory and community-based research. It was pilot tested and implemented in sequential, reasonable stages that ensure the programme's acceptance and sustainability. Goals for the programme are clearly outlined and are consistent with content of a CSEP (see Appendix A). Kirby's 17-point criteria require a narrow focus on specific behaviours leading to behaviour change and address sexual psychosocial risk. This criterion has been satisfied with education on abstinence, condom use and discussions on good decision making. A

safe environment has been provided for learning. Students even have an anonymous drop box for questions and this opportunity has been extended to the community as well. The programme runs sequentially with one HIV/AIDS focused lesson per week. Teachers are well trained to teach this subject matter and participate in continuing education. Lastly and maybe most important, there is adequate support from relevant government organizations, parents, students and the community. To date PSABH has been implemented in all 18,500 primary schools in Kenya.

4.2 TEEN WEB

Teen Web is a web-based programme designed for students in low resource settings. It was initially tested in urban settings in Nairobi, Kenya, and Rio de Janeiro, Brazil. Teen Web- Kenya was introduced in 2003 to high school students. Age range of participants was not explicitly stated, though mean age was 16.5, meeting one inclusion criterion for this thesis. This programme was conducted by researchers at the School of Public Health, University of North Carolina at Chapel Hill in collaboration with the Kenya Institute of Education.

While the aim of the intervention was to provide web-based health education, the study also sought to (1) better understand educational and sex health needs of urban Kenyan high school students, (2) alert adolescents to policy and services catering to them, (3) evaluate the ability of the internet as a modality to collect health data, (4) test the Internet as a effective modality for sex health teaching, and (5) determine if knowledge varied by student gender or age (Halpern, Mitchell, Farhat & Bardsley, 2008).

Teen Web was designed to be delivered in five web-based modules over the course of eight to ten months. Three large public schools (a boy's day school, a girl's boarding school and a mixed-sex day school) were recruited to participate. Participating schools received computer hardware and software, cubicle construction to maintain privacy during computer use, internet lease lines, a configured local area network (LAN) and four hours of training for teachers and

students on computer and internet use. Content of the modules included "substance use, sexuality, contraception, condom use, voluntary HIV/AIDS counseling and testing (VCT), abortion law and intimate partner violence" (Halpern, Mitchell, Farhat, & Bardsley, 2008, p. 630).

Modules at each site were tested for linguistic, conceptual and coding issues. Each student was then assigned a user ID and allowed to complete the module. It is not stated how long it took to complete the modules. The authors do mention that at completion of a module, students were directed to web pages with age-appropriate health education information, after which they were allowed access to the internet for at least thirty minutes. Students were encouraged to use this time to look up relevant health education sites. Filtering software was in placed to prevent viewing of violent and/or pornographic websites. At study completion, schools kept the computers and all software provided. It was at their discretion to continue internet service, which schools would pay for themselves.

Analysis of study data revealed students in Nairobi were more likely than students in Brazil to perceive barriers to condom use and more likely to believe condoms were not very effective in preventing pregnancy. Nairobi students had higher knowledge rates about availability of VCT (41% versus 15% in Rio) and about 50% knew about emergency contraceptives (EC) though only a third of them knew where they could be bought. Only 14% of Nairobi students sampled were cognizant of abortion laws (Halpern, Mitchell, Farhat, & Bardsley, 2008). Girls believed condoms were less effective in prevention of HIV/AIDS while boys were almost twice as likely to report condoms are effective. Both girls and boys agreed it would be difficult for someone their age to access condoms. Girls using Teen Web were less

likely to know for how long after sex emergency contraception is effective (Halpern, Mitchell, Farhat, & Bardsley, 2008).

This programme has several strengths and some significant weaknesses. Using the internet to provide comprehensive sex education reduces the number of educators needed to deliver content. It also allows for teaching of sensitive health content and can be used to collect health and demographic data. Nonetheless, the authors admit to numerous weaknesses of this intervention modality. There are issues with low bandwidth, privacy, literacy and user's search skills. In addition, the authors report that when study participants were allowed to surf the internet after their modules, most did not look at relevant health websites. The study was also unable to determine how much health material participants were exposed to in the 30 minutes of free internet use. This was because as a condition of privacy, the search history of individual participants was not collected. One of the greatest weaknesses of this programme is the lack of sustainability. A low resource setting was identified for the project, schools are set up with equipment, and no funding was available to continue internet service once the project was over. Very little effort appeared to be made to continue the intervention.

Teen Web met five of Kirby's 17 criteria for a well-designed CSEP. Multiple people with expertise in HIV/AIDS education were involved, and relevant needs of target population were assessed. Clear health goals were established; a safe social environment for participation was created and support was secured from appropriate authorities. This curriculum can be improved if it is expanded to include behaviour change interventions and has built-in sustainability.

4.3 THE WORLD STARTS WITH ME

The World Starts With Me (WSWM) is a computer-based programme, originally designed for adolescents between the ages of 12 to 19 in Uganda, an East African country west of Kenya. In 2006 it was pilot-tested in Kenya, and in July 2007, WSWM was officially launched in 28 Kenyan secondary schools, one primary school and six institutes for disadvantaged youth. WSWM-Kenya was developed by the World Population Foundation (WPF) in collaboration with the Kenyan Centre for the Study of Adolescence (CSA) and Nairobits Digital Design School. The Dutch government provided $34.6 million in funding to launch the programme.

WSWM was designed to provide comprehensive sex education while building information technology skills and sensitizing youth to human rights. The curriculum is available on CD-ROM and administered by virtual peer educators. There are 14 evidence-based lessons set up to follow a logical sequence of themes. The programme does not require users to be computer literate, but they must be able to read and write English. Because instruction in Kenyan schools is in English, this is not a problem. Content of WSWM is culturally and context specific down to the style of language, sexual issues addressed and visual imagery. Actual curriculum design used three main principles: 1) knowledge of adolescent development, 2) intervention mapping and behaviour change theories, and 3) the human rights-based approach.

The first three lessons of WSWM focus on physical and emotional changes in adolescents, decision-making skills and an examination of participant norms and values. The next three lessons concentrate on determinants of social behaviour. Students are exposed to positive role models and guided to plan and set goals for the future. At this stage they are also encouraged to challenge gender roles and actively pursue their reproductive rights. Lessons 7-11 provide instruction on STIs and HIV/AIDS, consequences of unwanted pregnancies, communication with a sex partner or parent about youth sexuality, prevention of sexual harassment and abuse and support systems for victims of sexual abuse. The last few lessons reiterate what has already been covered with a strong emphasis on continuing to develop decision making and goal-setting skills.

This comprehensive sex education programme has many strengths and a few weakness as well. First, the use of virtual peer educators reduces the number of teachers needed to provide instruction. Virtual educators offer a more confidential teaching environment and instruction is self-paced. It may also be easier for youth to relate to their virtual peer educators, who have local names and are dressed in culturally-relatable attire. A computer-based programme facilitates development of IT skills, necessary in today's society. Another advantage of WSWM is its human rights-based approach, that supersedes that of the reproductive rights approach making it easier for youth to challenge gender roles. If youth respect the human rights of others, irrespective of gender, it fosters respect for reproductive rights.

Strengths of this programme also include its acceptance of young people's sexuality, a non-judgmental approach to youth sexuality, a belief in gender equality and acceptance of sexual orientation, recognition of young people's right to accurate sex information and self-determination and the active involvement of adolescents in reproductive care.

Making the programme available on CD-ROM as opposed to web-based is another of its strengths and one of its weaknesses too. Schools must be able to buy and maintain computers to run the programme. The CD-ROM was distributed to schools free of charge but implementation is limited to schools that can afford necessary equipment. The authors of the report mention students congregate in groups of four or five per computer. This scenario does not truly allow a self-paced instruction process and may reduce amount of information individuals absorb. Sharing a computer to learn such sensitive information may cause students embarrassment, and slower readers or learners may miss vital information. However, this situation can be easily remedied by either making more computers available or increasing time available for the programme so each student has individual access to a computer.

When evaluated using Kirby's 17 criteria WSWM meets all the criteria. People with expertise in behaviour change theory, intervention mapping and knowledge of adolescent development and psychology were used to develop curriculum components. Activities were culturally appropriate and delivered in a sequential manner. In addition to short lectures, lessons were very interactive and included games, quizzes, assignments and poster presentations. Curriculum goals and objectives were clearly stated. Topics were covered in a logical sequence with multiple activities geared to changing risky behaviour. Support for the programme was secured from relevant authorities and educators received appropriate training. Though curriculum content was administered by virtual peer educators, teachers were trained to supervise implementation. In my opinion however, the programme failed to provide a safe environment for learning because of the shared computer use as there were not enough computers for each student to have individual access.

WSWM is currently being adapted and pilot tested in out-of-school slum settings in Kenya and in in- and out-of-school settings in Thailand, South Africa, India, Vietnam and Indonesia. Adaptations are being made for deaf and blind youth and youth with perinatal HIV/AIDS.

4.4 TUKO PAMOJA

Tuko Pamoja is Swahili for ‘We are Together’ or more literally, ‘We are One’.’ The name signifies the need for the community to come together to combat unwanted teenage pregnancy and STIs including HIV/AIDS. Tuko Pamoja was designed for youth between the ages of 10 and 19. It is currently in its second version and was designed by Kenya’s Program for Appropriate Technology in Health (PATH), with funding from the Office of the Population of the United States Agency for International Development (USAID) and the President’s Emergency Plan for AIDS Relief (PEPFAR), through the Frontiers in Reproductive Health Program of the Population Council.

The curriculum has thirty sessions that focus on life skills and adolescent health. Some topics have been deemed unsuitable for younger learners and as such the curriculum is divided into lesson for ages 10 to 14 and 15 to 19. Because this paper discusses interventions for girls between the ages of 14 to 18, content from all thirty sessions will be taken into consideration.

The main goals of this curriculum are to facilitate dialogue between youth and adults in regards to sexual health issues, to delay sexual debut and to “promote sexual and reproductive health by addressing gender, reproductive health, preventive behaviours, sexually transmitted infections, HIV and AIDS, abstinence, gender violence, and decision-making, communication,

and other important life skills" (Tuko Pamoja: Adolescent Reproductive Health and Life Skills Curriculum, 2006, p.5).

Tuko Pamoja was the most comprehensive programme revealed by this literature search. Teachers received very detailed instruction on how to deliver curriculum content using specific communication techniques to encourage behaviour change. The programme outlines objectives of each lesson; lecture notes are provided and possible activities and games are suggested to facilitate discussion. Parents are brought into the reproductive health discussion via a letter sent out by the school's head teacher. Classes are taught in coed groups and students are encouraged to ask questions. A suggestion box emptied weekly is also available to students who may want their questions answered anonymously.

This is the only programme that focuses more on adolescent girls as evidenced by training on use of the female condom and the provision of detailed instruction how to proceed after incidence of sexual abuse or rape. It specifically educates on evidence preservation and necessary paperwork needed to support your case. This curriculum is also unique in that it teaches about care and support of individuals living with AIDS. The lesson on care of the individual with AIDS is very thorough. Students are taught about symptoms of AIDS, anti-retroviral therapies, nutritional guidelines for the individual with AIDS and tips on controlling disease symptoms and side effects of medication. Tuko Pamoja's lesson plans are also the most comprehensive in regards to information on contraceptives, condom use, non-vaginal sexual intercourse and dispelling myths on sexual activity.

This curriculum's greatest strength is its diverse and comprehensive curriculum. It was designed for in- and out- of- school youth and has a strong emphasis on building personal

responsibility by modeling positive behaviour. Teachers are given timelines for lesson delivery but are encouraged to let sessions run for as long as needed.

Of note, however is Tuko Pamoja's emphasis on abstinence and the inclusion of contraceptive education as if as an afterthought. Abstinence is discussed in Lesson 19 and a search of the curriculum reveals frequent mention of condoms and contraceptive to prevent pregnancy and STIs, but, there is no actual conversation on the different types of contraceptive methods nor is there any demonstration of their use. This information is confined to the supplemental teacher's guide. In addition, curriculum guidelines encourage teachers to invite guest speakers to talk about topics they do not feel comfortable speaking about. Topics in this category include "contraceptives methods, STIs, abstinence, condom use, abortion and drug use" (Tuko Pamoja: Adolescent Reproductive Health and Life Skills Curriculum, 2006, p.7).

This programme's most critical limitation is its outsourcing of reproductive health education. It indicates a deficit in teacher training. If other programmes have trained peer educators to provide comprehensive sex education, why not this one? And how effective are these teachers as resources and trusted role models if they do not teach about the more sensitive topics? Who is the student to turn to with questions when the guest speaker is not available? If guest speakers are needed, how is curriculum content delivered when guest speakers are unavailable? This situation may decrease programme accountability and may also contribute to a lack of sustainability.

Tuko Pamoja meets all of Kirby's criteria. The curriculum was developed by multiple people with expertise in sex and HIV/AIDS. A pilot study was conducted to assess relevant needs and assets of the target group. Identified needs include need for information on transmission of HIV/AIDS and other STIs, the physiological processes through which pregnancy

occurs and lack of adequate decision-making skills. Assets of the target group include teachers receptive to receiving training to conduct CSEPs and students receptive to provided programme information. It focused on clear health goals, addresses sexual psychosocial risks, creates a safe environment for young people and offers multiple activities consistent with community values and available resources. Topics are covered in a logical sequence and were sanctioned by relevant authorities.

4.5 YOUTH FOR YOUTH (Y4Y)

The Youth For Youth (Y4Y) program was designed and implemented in 2005 by Kisumu Medical and Educational Trust (K-MET) in collaboration with University of California, Los Angeles (UCLA), the Kenyan Ministry of Health (MoH) and the Kenyan Ministry of Education (MoE). Funding for Y4Y was via a $128,000 seed grant from UCLA's Globalization Research Center Africa. Y4Y is unique in that it was designed to be implemented by trained youth and specifically targets out-of-school youth.

At time of programme design, the rates of unintended pregnancies and unsafe abortion in Kenya were estimated to be at 20% (Tavrow, 2005). These high unwanted pregnancy and abortion rates were attributed to youth's lack of knowledge regarding sexuality and contraception, lack of decision making and self-efficacy skills, lack of access to information on sexually transmitted diseases (STIs) and contraceptive information and services. Adolescent girls lacked positive role models and had low levels of self-efficacy. The author also mentions that many girls with unintended pregnancy try to self-abort or else risk expulsion from school. Attempts to self-abort frequently met with disastrous results including death.

Target population for the Y4Y programme was rural youth between the ages of 11 and 20, both in and out of school. Youth in rural areas were especially identified to be at risk of higher STIs and unintended pregnancy rates because they have fewer opportunities to gain

necessary knowledge, are often poorer than their urban counterparts and are not treated kindly and confidentially by health care providers.

The community was actively engaged in development of this programme. Community mobilization meetings-information sessions where community gate keepers and other community members were invited to provide feedback about the project were held, schools were invited to participate in the project and training facilities were appropriated. Young people in Bungoma District of Western Kenya were recruited for focus groups seeking to establish baseline knowledge on reproductive health and practices. The sample size included boys and girls from both primary and secondary schools. These young people were found to have several misconceptions about spread of STIs and had low knowledge levels on pregnancy prevention. Focus groups also revealed that youth perceived that they were poorly treated by health care providers when they sought services and minimal attempts were made to protect their privacy.

Goals of the Y4Y programme were to increase youth's knowledge on HIV/AIDS and other sexual matters, improve youth's decision-making skills, reduce incidence of risky sexual behaviour among youth and to lower youth's rates of unwanted pregnancies and STIs.

The Y4Y programme has three main components. First, there is a 10-module comprehensive curriculum administered by peer educators to youth in secondary schools and out-of-school youth. Modules were delivered in two-hour sessions. Curriculum content includes life skills, challenging rigid gender roles, negotiation skills, self-efficacy skills and self-esteem building exercises. Peer educators also provided mentoring education to primary school children. The second component of Y4Y is the development of youth-friendly health clinics staffed with trained peer educators to provide information on basic contraceptives to other youth. In this component of the programme, the peer educators also served to advertise the newly established

youth services. The third component of Y4Y is the institution of continuous monitoring of health services and youth satisfaction rates and ongoing training for peer educators.

This programme has several distinct features that lend to its strength. It is implemented in secondary schools using trained peer educators and low cost supplies. The authors mention that in rural areas, high schools are often the most stable and well-endowed institutions. Peer educators are chosen by their class mates, and then trained by Y4Y staff. This process ensures a sustainable supply of educators, as the elected peer educators later train others. Supplies needed to conduct the programme are contained in bags distributed to the participating schools. Bags contain the curriculum, reference materials, penis models, sample condoms, umbrellas and other items.

All primary schools and churches in a 30-minute walking distance from participating schools are included in Y4Y, and the programme is also offered to choir groups, football leagues and groups of school leavers. To accommodate school leavers, sessions are held on weekends in their former schools or local churches. School leavers are trained by Y4Y to provide peer counseling, condoms and pills in clinics. By using school leavers as peer counselors, the school leaver gains employment and youth have access to friendly, confidential reproductive health services and extended provider hours.

Y4Y has embedded continuous training and service evaluation into its programme. After training sessions, participants are asked to fill out surveys on the services received. Results from survey are reviewed quarterly by Y4Y staff and feedback offered to all peer educators and health care service providers.

In 2006, Y4Y was registered as a community-based organization and in 2007, received funding from a Dutch non-governmental organization to expand to three more divisions in

Bungoma District over the next three years. Because the programme provides information on condoms, it is not eligible for PEPFAR funding (UCLA African Studies Center ENewsletter, 2007).

Y4Y meets all of Kirby's criteria for a successful comprehensive sex education programme. It was designed by graduate students at the UCLA School of Public Health, Department of Community Health Sciences in collaboration with its African Studies Center. The programme incorporates constructs from the Health Belief Model. There was a systematic assessment of the community's needs and a systematic process for programme implementation. The authors mention recruiting local youth for focus groups to ensure programme activities were consistent with community values, were able to use available resources and have pilot tested. Goals for Y4Y are clearly outlined and are accomplished using a variety of activities. There is marked use of behaviour modification techniques to improve decision making abilities and self-efficacy.

Peer educators selected by students themselves made the teaching environment safer and more accessible, the use of games and demonstrations to teach the curriculum further facilitated behaviour change (Tavrow, 2005). Lastly, project coordinators secured support from relevant authorities, selected appropriate educators, and most importantly, ensured the programme was sustainable by using local youth as educators, using available facilities and making sure that all materials needed to run the programme fit in a bag.

5.0 DISCUSSION

Unfortunately, many adolescents in Kenya today do not receive adequate sex education due to several socio-cultural barriers to institutionalization of comprehensive sex education. Almost 90% of Kenyans are Christians (Religious Demographic Profile: Kenya, The Pew Forum on Religion & Public Life, 2009) and due to strict religious beliefs, do not condone sex outside marriage, and some do not believe in the use of condoms or other forms of contraception (Mbugua, 2007). In addition, the conservative nature of society does not allow a more open dialogue on sexuality between adolescents and adults. Some parents use scare tactics to keep their children from sexual activity or outsource comprehensive sex education to school teachers. Teachers, being subject to the same conservative social beliefs and lack of training on how to deliver comprehensive sex education, are unable to provide complete and unbiased sex education (Mbugua, 2007).

Adolescents need and have the right to accurate reproductive health education. Abstinence messages in Kenya have proved ineffective in curtailing the rates of HIV/AIDS and teenage pregnancy. Research has proved that comprehensive sex education is more effective than abstinence-only-until-marriage education in decreasing rates of STIs and teenage pregnancies. CSE does not encourage teenage sexual activity nor does it encourage earlier sexual debut. CSE improves adolescent decision-making skills and boosted self-confidence (Review of Key

Findings of "Emerging Answers 2007" Report on Sex Education Programs, Guttmacher Institute, 2007).

Table 1: Comparison of the five CSEPs

	PSABH	Teen Web	WSWM	Tuko Pamoja	Y4Y
Funding Agency	USAID	University of North Carolina, Chapel Hill	Dutch Government	USAID,PEPFAR	University of California in Los Angeles
Cost	$500,000	Unknown	$34.6 million	Unknown	$128,000
Funding Duration	Unknown	Unknown	2 years	Unknown	3 years
Initial Target population	Youth in primary (elementary) school	5 schools in Nairobi, Kenya		Unknown	Rural youth (both in and out of school)
Age Range of Target Population	11-16	Unknown (Mean age 16.5)	12-19	10-19	11-20
Mode of Transmission	Verbally, in class room setting	Individually, via internet transmission	In group, via CD-ROM, with computer interface	Verbally, in classroom setting	Verbally, by peers
No. of sessions	15	5	14	30	10
Did programme meet Kirby's criteria?	Yes	No -not sustainable, No internet access after study end	Yes	Yes	Yes
Programme Reach	18,500 primary schools in Kenya	28 Kenyan secondary schools 1 primary school 6 institutes for disadvantage youth	Out-of-school slum settings, In- and out-of-school settings in Thailand, South Africa, India, Vietnam and Indonesia.	Unknown	4 divisions in Bungoma District, Western Kenya

The first programme discussed, PSABH, (see ***Table 1***) has the widest reach, having been instituted in all 18,500 primary (US equivalent of elementary) schools in Kenya. It is predominantly an HIV/AIDS prevention curriculum with one dedicated HIV/AIDS lesson each week incorporated into standard teaching. Most of the HIV/AIDS teaching in this programme is factual but according to a recent article by Njue, Nzioka, Maina-Ahlberg, Pertet and Voeten (2009), does not fully address psychosocial issues required by a prevention curriculum and gives conflicting messages on contraceptives and condoms use. According to the authors, when school teachers received training on the curriculum, Ministry of Education officials urged them not to discuss contraceptives and condom use with students though these topics are contained in the curriculum.

Teen Web (see ***Table 1***) was designed for internet delivery and provides education on contraceptives, condom use, abortion laws and prevention of intimate partner violence. Students had access to computers with an internet connection, completed modules, and were then allowed to surf the internet for 30 minutes following module completion. The research team expected students to use that time to access more health-related information but were unable to measure how much health education was accessed in that additional thirty minutes because internet search histories of study participants was not recorded. At completion of the study, schools kept the computers and all software provided, but, internet access was longer funded by the researchers.

The World Starts With Me (WSWM) (see ***Table 1***) also has a computer-based delivery system. WSWM differs from Teen Web in that it uses CD-ROMs to administer the programme versus Teen Web that delivered the programme via the internet. WSWM teaching on reproductive health evolves from a respect for human rights. Developers of its curriculum argue

that when human rights are respected, it extends to a respect of the right to information on sexuality and access to reproductive health services.

Tuko Pamoja (see ***Table 1***) was designed to be implemented in thirty, one hour sessions implemented throughout the academic year. This programme was the only one of the five identified CSEPs that catered more to girls by including information on using the female condom and how to deal with a sexual assault.

Y4Y (see ***Table 1***) employs an innovative and self-sustaining delivery system. Youth from participating high schools are elected by classmates and trained by the research team to provide comprehensive sex education to their fellow youth.

Dr. Kirby's seventeen criteria were used in this project as the benchmark for a well-designed comprehensive sex education programme. Four of the five identified programmes met all of Kirby's criteria. However, it is still difficult to ascertain if a programme is effective just because it meets all the criteria for a well-designed curriculum. In personal communication with Dr. Kirby (July 21, 2009), he mentions that the number of criteria that need to be fulfilled to have a well-designed programme is subjective, and depends in part on how severely one or more of the criteria are not met.

For example, if a program requires resources that are not available in a community, it may not be implemented at all or with fidelity, and thus will not be effective. If a program radically violates the values of a community, it may not be implemented at all, or may be partially implemented and then shut down. If a program does not focus on the behaviors that affect pregnancy or STI transmission, it probably will not have an impact on risky sexual behaviours. If a programme does not give a clear message about behaviour, it may not change behaviour, although, in a few places where adolescents lack any real knowledge of HIV or

pregnancy or STI, simply increasing knowledge might have an impact (Dr. Douglas Kirby, personal communication, July 21, 2009).

Dr. Tavrow spoke to this author about the difficulties of implementing a comprehensive sex education programme in Kenya. She is the Director of the Bixby Program in Population and Reproductive Health and Adjunct Assistant Professor in the Department of Community Health Sciences at UCLA's School of Public Health and was the principal investigator for the Youth for Youth programme.

Dr. Tavrow mentions that in the Y4Y project, there was full support from governmental agencies. Opposition was encountered from non-governmental organizations (NGOs) and school teachers. Dr. Tavrow told of incidences when teachers discouraged students from attending programme sessions, refused to supervise sessions and even conspired to make rooms unavailable for teaching. In another incidence, a well-known Christian humanitarian NGO took over a Y4Y center, claiming it was going to make it into a voluntary counseling and testing (VCT) site. This was done over a weekend and Y4Y staff was unaware. Because there was no trained staff to run the VCT, the site now sits empty. Y4Y was unable to recover the site. Other issues unique to this project include protecting programme supplies from being eaten by rats, teaching during afternoon rain showers when rain beating so loudly on corrugated iron sheet roofs makes it impossible to be heard and teachers who believe using penis models for demonstrations predisposes girls to lesbianism (Dr. Paula Tavrow, personal communication, March 18, 2009).

One of the most vital components of programme development is sustainability. With the exception of PSABH, these five programmes have many sustainability concerns. The Teen Web project requires computers and access to the internet, an expensive undertaking that may be

accomplished only by privately run schools. WSWM also requires computers and study participants already have to share computers decreasing possible effectiveness of disseminated information. Tuko Pamoja appears to rely heavily on guest speakers without which curriculum content cannot be delivered; and Y4Y has funding for the next three years, after which it will need to find an alternate source of funding.

The issue of programme sustainability is a problem that needs to be addressed during the research phase of programme development. It would be advisable for organizations or authorities approving introduction of comprehensive sex education programmes to add a funding clause to the agreement so that, if an agency introduces a programme and is unable to guarantee funding for the next five to ten years, it is not allowed to run the programme. Unfortunately, such actions may negatively affect youth, though on the other hand they may ensure that project developers are more committed to programme implementation and sustainability.

Another critique of available CSEPs is the lack of national dissemination though PSABH must be commended for expansion to all primary schools in Kenya. Because of the introduction of free primary school education in 2003, record numbers of children now attend school (Lacey, 2003). However, there is no nationally available CSEP at the secondary school level and no programmes that cater specifically to school drop-outs.

Another matter of concern for Kenya's comprehensive sex education programmes (CSEPs) is their continued reliance on donor funding. Ideally these programmes should run independently of donor agencies. Funding from donor agencies often comes with stipulations that lead to programme self-censorship. For instance, Tuko Pamoja was developed in collaboration with PEPFAR. PEPFAR does not support abortion and may have caused Tuko Pamoja's discussions on abortion and condoms to be less aggressive. Even though Tuko Pamoja

is touted as a CSEP, it does not teach methods of contraception or condom use unless a student explicitly asks a question about them. And even then, teaching of these 'more sensitive' topics as mentioned in the Tuko Pamoja's teaching guide can be outsourced to other reproductive health professionals and not provided by the teacher teaching the class. Y4Y was not eligible for PEPFAR funds because it teaches condom use. Y4Y is currently relying on funding from a Dutch NGO. There do not appear to be any conditions attached to this funding; however funding is guaranteed only for the next three years.

Severing ties with donor agencies will encourage the Kenyan government to be more committed to providing services for its population. Developing and implementing programmes will provide more jobs for locals and will increase Kenya's sense of self-sufficiency. Curricula will be consistent with community values and available resources, avoiding the need to adapt programmes designed for other populations. This will decrease time need for pilot testing and facilitate faster integration of curricula into the educational system. It is also hoped that internally developed CSEPs will foster increased collaboration between curriculum developers and law makers, leading to greater provision of reproductive health services for youth.

6.0 RECOMMENDATIONS AND CONCLUSIONS

This author attended primary and secondary school in Kenya in the mid to late nineties. At that time, sex education in primary schools consisted of one lesson on male and female reproductive systems in Standard 6 (US equivalent of Grade 6). Sex education in high school (this author attended an all-girl's' boarding school) was limited to lessons on emotional consequences of abortion and the need to abstain from sex before marriage. It was a very conservative, religious setting with few social vices acknowledged or discussed. In secondary school, one of this author's classmates got pregnant and was expelled from school. Students were reminded by the school principal that 'high schools are not maternity homes' and that once expelled, girls would not be readmitted. Another classmate committed suicide because she was pregnant. As a volunteer at a local hospital at the age of fourteen, this author observed a seventeen-year old girl undergoing an abortion. She was unaware of the fact that pregnancy could occur from the first incidence of unprotected sexual intercourse.

At this point in time, Kenyan society has little accommodation for teenage pregnancies. Pregnant teenagers are expelled with little chance to return to the same high school after delivery. It may be possible to attend another high school after child birth but there is no guarantee that years of high school are transferrable. If a teenage Kenyan girl gets pregnant during high school and delivers a child, she may have to start high school all over again, facing

ridicule because she is likely to be older than her classmates. There are no child daycares in high schools, neither are there special high schools for pregnant teenagers as is the case in the United States.

Based on the aforementioned experiences, this author chose to examine if sex education for adolescent girls in Kenyan schools has changed. The presence of five comprehensive sex education programmes attests to fact that there have been developments in adolescent reproductive health education and services. This is commendable, though programmes are still met with a lot of resistance from society and face financial and logistical barriers to implementation.

To implement adequate comprehensive sex education for adolescent girls in Kenya, a multilevel system of approach is required. Change must first occur at the individual and interpersonal levels. Change at the interpersonal level involves the individual being aware of the need and benefit of CSE. This process involves a change in personal belief that allows an individual to be receptive to either receiving or providing accurate sex education. Mbugua (2007) noted that this process is difficult even though the individual can rationalize the benefits of CSE.

The second level of change is at the community level where the community as a whole realizes the benefit of this education. Greater efforts need to be taken to engage the community in reproductive health dialogue, especially engaging religious institutions which hold so much power over a large percentage of Kenyan citizens. Barriers that have been noted at the community level include school teachers refusing to supervise education sessions, school principals refusing to run CSEPs in their school despite programme coordinators receiving permission from relevant authorities, healthcare providers refusing to provide reproductive health services to adolescents (Tavrow, 2005) shop keepers refusing to sell condoms to

adolescents (Njue et al., 2009) and churches organizing rallies to destroy condoms (Nganda, 2007).

Community engagement in reproductive health education can be accomplished by inviting religious and local leaders and other community gatekeepers to participate in comprehensive sex education training programmes. If possible, identify a community leader who will champion the cause and promote social acceptability of the programme. An example of this approach is an innovative condom campaign in rural India that promoted normalization of condom discussion by developing a cell phone ringtone that sung out the word 'condom'. When the phone an elderly gentleman, a respected figure in the community is holding starts to ring with the unique condom ringtone, he is at first embarrassed. As the ringtone continues, people standing around him start to talk about the 'condom' ringtone. The ringtone gradually allowed for normalized and socially acceptable conversation on condom use. The condom campaign in India was successful because they portrayed a respected community figure embracing a new behaviour (Normalizing Condoms in India, 2008).

Lastly, change is needed at the organizational and policy level. There needs to be a move to a standardized reproductive education system at the high school level. Government policy should mandate adolescents' rights to access contraceptives and barrier methods. Parents and other adult role models should to be encouraged to be receptive to adolescents' needs for family planning service and health care providers must be mandated to provide comprehensive, unbiased and confidential reproductive health care.

Based on the review of the five CSEPs described in this thesis, it is recommended that Tuko Pamoja be implemented in high schools nation-wide. Tuko Pamoja is a well-designed programme that does not require computer technology to be administered. It has a strong focus

of developing decision-making skills of the adolescent and was the only programme that had content that specifically catered to girls. However, Tuko Pamoja needs to provide more teaching on contraceptives and condom use. Ideally, teachers should be knowledgeable on these issues and not have to outsource discussion they consider more sensitive. It would also be recommended that classroom teaching should be linked with referrals to youth-friendly reproductive health services. To increase accountability, content taught in Tuko Pamoja should be incorporated into the high school level National Examination.

Because only six million of Kenya's thirty seven million citizens live in urban areas, it is recommended that there be a greater focus on implementing Tuko Pamoja in rural areas. To facilitate acceptance and institutionalization of Tuko Pamoja in lower resource areas of Kenya, more funds should be dedicated to training teachers and establishing the programme in rural areas. It is the opinion of this author that the key to implementing a successful programme will be in the change of the population's mindset. Without a modification in thought and an increasing receptiveness to comprehensive sex education programmes, no amount of money or any well-designed programme will result in change.

It is expected that with time Kenyan society will be more receptive to the thought of comprehensive education provided to adolescents, and especially girls who suffer more severely from the consequences of unprotected sexual activity. Kenya has many societal taboos against providing sex education to young people, and the situation is exacerbated by strict religious beliefs. However, social norms are evolving and opportunity for adolescents to receive comprehensive sex educations from parents and other adult role models is emerging.

There were several limitations to conducting this research project. A major limitation was the reliance on secondary data that was not easily accessible, did not have all information

required and information was not as current as needed. Most of the data needed on adolescent sexual activity were collected by the Kenyan Center for the Study of Adolescence (CSA) but its website has very scant information on all the studies it performs. Instead data collected by CSA were found from searching other agency's documents. Information on cost of implementing Teen Web and Tuko Pamoja was unavailable. Information on exactly how many adolescents, and girls, in particular, received CSE in each of the five programmes was not able to be determined.

Another limitation identified in this process was the inability to get information from Kenyan agencies. Emails requesting additional information were sent out to organizations that run CSEPs in Kenya but this author did not receive any responses from repeatedly sent out emails. Attempts to call organizations in Kenya for more information were equally unsuccessful as most organizations did not appear to have a resource person. This author was often left on hold as an appropriate person to address a concern was found. Every time, the possible resource person was unavailable or the secretary was not sure who to forward the call to and simply hung up the phone. Because of the expense of these international phone calls coupled with the +8 hour time difference, retrieving information in this way was not successful.

There was difficulty retrieving Kenyan census data due to the way data was organized and with some gaps noted in the data reporting. Kenya does not collect reproductive health data on persons under the age of fourteen. This project needed information on teenage pregnancy rates of girls aged 14 to 18 but because data on fourteen year olds were unavailable, some assumptions about them had to be made. Some data lumped ages 15 to 24 though they are not in the same developmental stage and have different sociocultural concerns (e.g., a 15-year-old is considered a teenager and pregnancy at that age may be unwanted; however, a 24 year old is

more mature and may have planned the pregnancy). Because of this large age-group lumping process for data collection, it is difficult to determine what percentage of the data can be attributed to the target population of 14 to 18 year old females.

Lastly, this project would have benefitted greatly from the collection of primary data. Important data that need to be collected includes the increase in student knowledge as a result of CSEP information, the impact of CSEPs on teen pregnancy rates and incidences of STIs and whether adolescent females are more motivated to access reproductive health services as a result of information received from CSEPs. Retrieving this information will be crucial to in the fight to improve the reproductive health of Kenya's adolescent female population.

In conclusion, this project examined available comprehensive sex education programmes targeting adolescent girls in Kenya today. Open conversation about sex has long been a taboo in Kenya and many African countries, if not most of the world. Because sex and the result of unprotected sexual activity are not openly discussed, Kenya has a high rate of teenage pregnancies and STIs including HIV/AIDS. Kenyans below the age of twenty four have been most severely impacted by HIV/AIDS and even more so, women.

This thesis offers a snapshot of comprehensive sex education programmes in Kenya. Comprehensive sex education is a vital component in the fight against HIV/AIDS and other STIs, rising numbers of teenage pregnancies, poor maternal health and increasing rates of maternal and neonatal mortality. Slightly over 42% of Kenya's population is under the age of fourteen (CIA-The World Fact Book, Kenya, 2008). With this population rapidly approaching sexual debut, a cost-effective intervention providing knowledge that can lead to decreased STIs and teenage pregnancy is needed.

A comprehensive literature review of six online databases (PubMed, CINAHL, Ovid, MEDLINE, Popline and the African Index Medicus) and a search of the internet were conducted from January to March 2009 to identify comprehensive sex education programmes actively functioning in Kenya today. This detailed search process revealed five well-designed CSEPs of varying strengths and reach (**see Table 1**). Only two of the five programmes were identified from peer-review journals (PSABH & Teen Web). The remaining three programmes were identified by entering key terms into a search engine. A final systematic review conducted in June 2009, did not reveal any additional comprehensive sex education programmes in Kenya.

In Kenya, if a teenage girl gets pregnant, she is expelled from school. Abortion is illegal unless the health of the mother is in jeopardy. Illegal abortions kill thousands of Kenyan teenage girls every year. If the girl survives, she may face future infertility as a result of the abortion process. Thousands of other young women in Kenya die during childbirth or suffer complications that lead to disability. Completing school after having a child is difficult as girls may not be able to complete their education at the same school; they face ridicule from classmates or may drop out of school due to lack of school fees or childcare. Girls who drop out of school due to pregnancy then begin a cycle of poverty as it may be harder, if not impossible to find gainful employment that keeps them out of poverty.

Comprehensive sex education is effective in delaying sexual debut, reducing frequency of sex, reducing the number of sexual partners and increasing condom or contraceptive use. Five programmes that cater to varied adolescent populations were identified. These programmes were well-designed and almost all implemented with fidelity. Y4Y addresses the needs of rural youth, using peer educators and available resources. WSWM caters mostly to urban youth; it teaches information technology skills and has been adapted for slum-dwelling youth. It continues to be

adapted for blind and deaf youth. PSABH reaches the most youth and also teaches life skills. Tuko Pamoja is very detailed and draws on the strengths of community experts to improve its information delivery system.

Kenya has made vast improvements in a relatively short amount of time in regards to its reproductive health education. With time, good planning and good governance, the country will improve and expand available reproductive health services while reducing reliance on foreign expertise and donor funds. Because Kenya is a relatively young country, having only attained independence in 1963, it is only now that thousands of well- educated Kenyans are coming of age and have completed educational degrees that qualifying them to step in and manage these programmes. Comprehensive sex education will play a crucial role in keeping this upcoming, educated population strong, healthy and able to contribute the country's future.

APPENDIX A: COMPARISON OF COMPONENTS OF SEX EDUCATION

COMPONENTS OF COMPREHENSIVE SEX EDUCATION PROGRAMMES

VS.

ABSTINENCE-ONLY-UNTIL-MARRIAGE EDUCATION

Comprehensive Sex Education	Abstinence-Only-Until-Marriage Education
Teaches that sexuality is a natural, normal, healthy part of life	Teaches that sexual expression outside of marriage will have harmful social, psychological, and physical consequences
Teaches that abstinence from sexual intercourse is the most effective method of preventing unintended pregnancy and sexually transmitted diseases, including HIV	Teaches that abstinence from sexual intercourse before marriage is the only acceptable behavior
Provides values-based education and offers students the opportunity to explore and define their individual values as well as the values of their families and communities	Teaches only one set of values as morally correct for all students
Includes a wide variety of sexuality related topics, such as human development, relationships, interpersonal skills, sexual expression, sexual health, and society and culture	Limits topics to abstinence-only-until-marriage and to the negative consequences of pre-marital sexual activity
Includes accurate, factual information on abortion, masturbation, and sexual orientation	Usually omits controversial topics such as abortion, masturbation, and sexual orientation
Provides positive messages about sexuality and sexual expression, including the benefits of abstinence	Often uses fear tactics to promote abstinence and to limit sexual expression
Teaches that proper use of latex condoms,	Discusses condoms only in terms of failure

along with water-based lubricants, can greatly reduce, but not eliminate, the risk of unintended pregnancy and sexually transmitted infections (STIs) including HIV	rates; often exaggerates condom failure rates
Teaches that consistent use of modern methods of contraception can greatly reduce a couple's risk for unintended pregnancy	Provides no information on forms of contraception other than failure rates of condoms and contraception
Includes accurate medical information about STIs, including HIV; teaches that individuals can avoid STIs	Often includes inaccurate medical information and exaggerated statistics regarding STIs, including HIV; suggests that STIs are an *inevitable* result of premarital sexual behavior
Teaches that religious values can play an important role in an individual's decisions about sexual expression; offers students the opportunity to explore their own and their family's religious values	Teaches that carrying the pregnancy to term and placing the baby for adoption is the *only* morally correct option for pregnant teens
Teaches that a woman faced with an unintended pregnancy has options: carrying the pregnancy to term and raising the baby, or carrying the pregnancy to term and placing the baby for adoption, or ending the pregnancy with an abortion	Teaches that carrying the pregnancy to term and placing the baby for adoption is the *only* morally correct option for pregnant teens

APPENDIX B: ACRONYMS

ACRONYMS

AIDS- Acquired Immunodeficiency Syndrome

CBS-Central Bureau of Statistics, Kenya

CD-ROM- Compact Disk - Read Only Memory

CfBT -Centre for British Teachers

CINAHL- Cumulative Index to Nursing and Allied Health Literature

CSA- Center for the Study of Adolescences (Kenya)

CSE-Comprehensive sex education

CSEP(s) - Comprehensive Sex Education Programme (s)

ETR-Education, Training and Research

FHI-Family health International

HIV/AIDS- Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome

IPPF-International Planned Parenthood Federation

IT- Information Technology

JHPIEGO-Johns Hopkins Program for International Education in Gynecology and Obstetrics

KIPPRA-Kenya Institute for Public Policy Research and Analysis

KDHS-Kenyan Demographic and Health Survey

KIE- Kenya Institute of Education

K-MET- Kisumu Medical and Educational Trust

LAN-Local Area Network

MDG- Millennium Development Goals

MEDLINE- Medical Literature Analysis and Retrieval System Online

MoE- Ministry of Education

MoEST- Ministry of Education, Science and Technology

MoH-Ministry of Health

NGOs- Non-Governmental Organizations

PATH-Program for Appropriate Technology in Health

PIH-pregnancy- induced hypertension

PEPFAR-President's Emergency Fund for AIDS Relief

PSABH- Primary School Action for Better Health

SIECUS-Sexuality Information and Education Council of the United States

SSA-Sub Saharan Africa

STIs- Sexually Transmitted Infections

UCLA- University of California in Los Angeles

UNFPA-United Nations Population Fund

USAID- United States Agency for International Development

VCT-Voluntary Counseling and Testing Center (for HIV/AIDS)

WHO-World Health Organization

WPF-World Population Foundation

WSWM- The World Starts With Me

Y4Y-Youth for Youth

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